
CARDIOLOGY

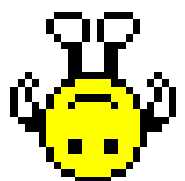
Clinical **C**ases

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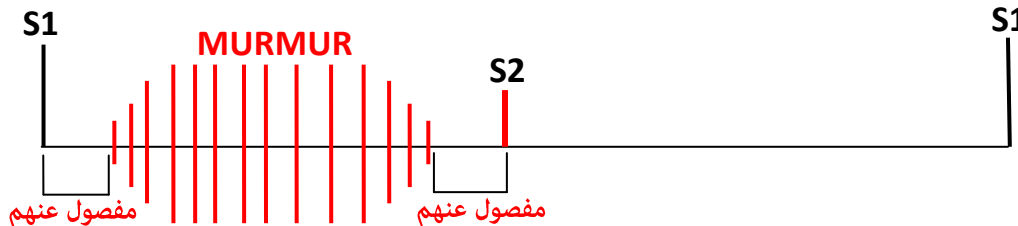
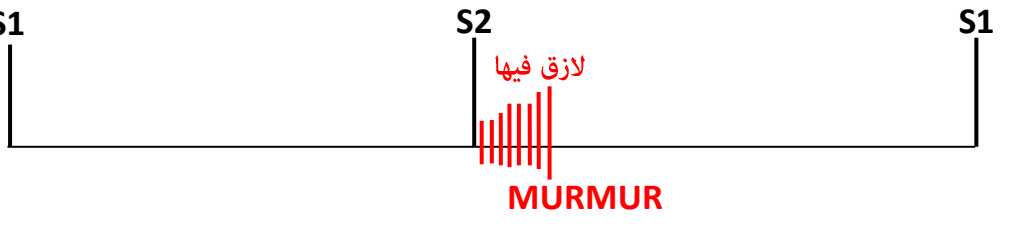
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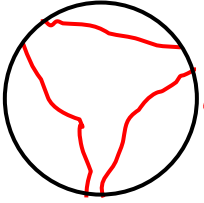
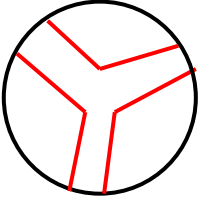
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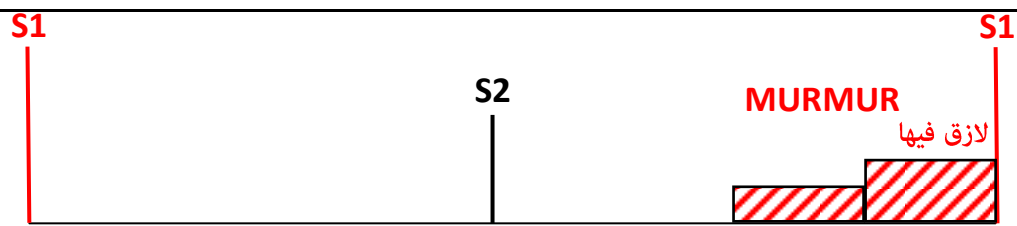


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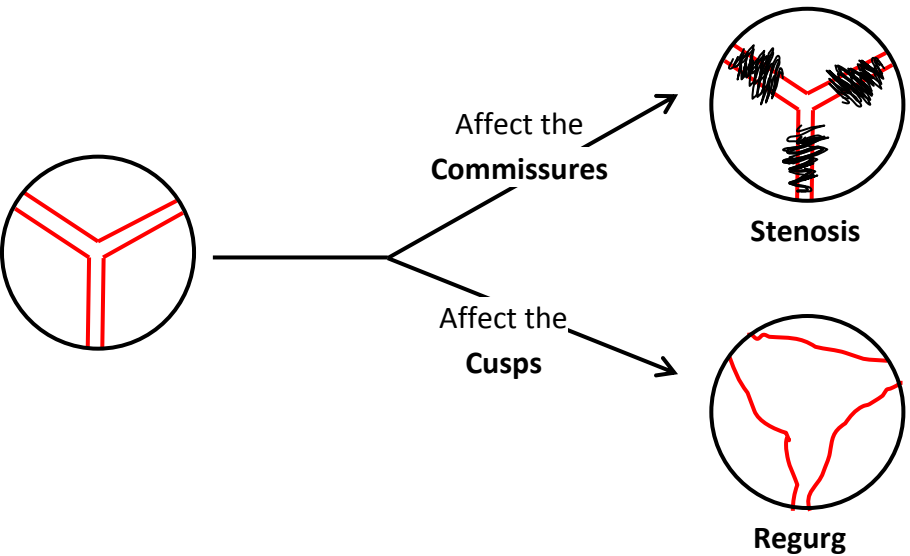
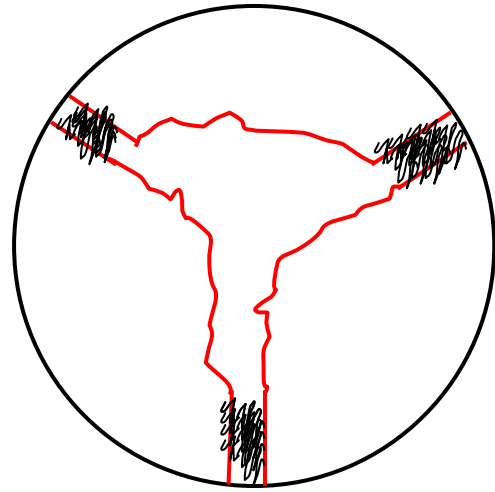
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		Aortic Stenosis (A.S.)		Aortic Regurg (A.R.)		
■ Etiology :		• Congenital .. طفل • Rheumatic Fever .. متوسط العمر • Calcification .. عجوز		أسبابه كتييرة • The COMMONEST Cause in Egypt is Rheumatic Fever		
■ Clinical	■ H/O :	• Low COP .. up to Syncope (دوخة وزغللة)		• Palpitation (حاسس بـ رفرفة)		
		• then, ANGINAL PAIN .. for a Long Period * if Left Ventricular FAILURE occur → Dyspnea (كرشة نفس ونهجان) but it's <u>VERY LATE</u>				
	■ General Examination :	*here, it's Useless		★ Peripheral Signs of A.R. (إذا لقيتهم .. تعرف بيهم تشخيص الحالة ع طول)		
	■ Local Examination : (Inspection, Palpation & Percussion)	*here, it's Useless • Apex → Sustained Apex		• Apex → Hyper-dynamic Apex (Volume Overload) • Aortic Pulsations Dancing Pericardium		
		* if Left Ventricular DILATATION occur → Apex will Shifted Outward & Down				
	■ Auscultation :	• Normal Sound	S2 : ↓ Muffled (بس مش شرط)		Normal (بس ديه آراء آراء .. في كتب كاتبة حجات مختلفة) it Depends on the Etiology	
		• Murmur				
			★ MURMUR جداً سهل		MURMUR صعب جداً	
			• Time Mid Systolic (Systolic Ejection)		Early Diastole	
			• Character Harsh		Soft Blowing Murmur (شبه صوت النفس)	
• Site 1 st Aortic Area			2 nd Aortic Area			
• Propagation To Carotid & to Apex .. (طالع نازل)		✖				
• ↑↑ by لما العيان : يميل لـ قدام .. أو يخرج نفسه		لما العيان : يميل لـ قدام .. أو يخرج نفسه				
		N.B. The SEVERITY of the Disease is Detected by <u>Length of Murmur</u> & <u>Intensity of S2</u>		*Precaution : (عشان النفس) : وأكتم (++) .. قول لـ العيان .. خرج نفسك		
• Additional Sounds		—		—		
■ Complication		Search for A.F. & Pulmonary HTN in The Cases				
■ Investigations		by Scheme				
■ Treatment		by Scheme				
■ Oral Qs		• The Most Common Cause of A.S. in Egypt is Rheumatic Fever • The Most Common Cause of A.S. in the World is Congenital		• How Dose the Case could be Isolated A.R. while the Etiology is Rheumatic Fever ? - maybe it is One of the Rare % of Rh. Fever - maybe it is Isolated in Auscultation .. but in ECHO it's Double Leision		
		• The Best Investigation is ECHO & DOPPLER		• The Best Investigation is ECHO & DOPPLER		
		• The Assessment of Severity is done by Pressure Gradient (ABP) “if More than 50 Difference >> it's Severe”		• The Assessment of Severity is done by its Effect on the Lt. Ventricle - for Degree of Dilatation (Dimensions) & for Function (Ejection Fraction)		
		• The Initial Starting Treatment for these Cases is PROPHYLACTIC (Prevention of Rheumatic & IEC) “حسب الحالة فيها أيه”				
		• The Treatment of Angina is Sub-Lingual Nitrate (ياخد القرص وهو قاعد)		• The Treatment Which Improves the Regurg is Small Dose of Vaso-Dilator (Captopril)		
		• The Patient Can go for Interventional Treatment with 2 Conditions must be fulfilled is the Lesion is Isolated & Non-Calcified → Balloon-Aortic-Valvo-Plasty (بس نتأجه وحشة)		• The Patient Can NOT go for Interventional Treatment		
		• The 2 Infection Diseases Could Cause A.R. are Syphilis & Infective Endocarditis • in A.R. Cases Which Joints Do You Prefer to Exam for Diagnosis ? • Peripheral Joints : - Big Joints .. for Rheumatic - Small Joints .. for Rheumatoid or Marfan \$ • Axial Joints : for Ankylosing Spondylitis				

in case of Aortic Regurg (A.R.) :			
■ the Apex :	Lt. Vent. هو معمول من الـ → Localized Volume Overload وبـ يتأثر بـ الـ → Hyper-dynamic Lt. Vent. Dilatation فـ هـ يعمل .. → Shifted Outward & Down		
■ Heart Sound :	it Depends on the Etiology		
	 In Rheumatic Fever Heart Sounds : ↓ Muffled كشكش	 Here, Heart Sounds : ↑ Accentuated المسافة ما بينهم كبرت	
■ if there's a Patient .. with (A.R. Murmur) + (M.S. Murmur) .. what's the Possibilities for that ?!		يسألك الدكتور .. تفرق ما بين 1 & 2 إزاي ؟!	
1-	He is an A.R. Patient .. with an ORGANIC A.R. Murmur , with FUNCTIONING M.S. Murmur .. و called [Austin-Flint Murmur] As the Blood و come back from Aortic Valve .. could Prevent Mitral Valve from Opening	FUNCTIONING M.S. Murmur	No Opening Snap + No Thrill
2-	He is a Patient with A.R. + M.S. Lesions ده يفسر حاجة .. This will affect the Peripheral Signs of A.R. & Decrease it ويبوط حاجة .. This mean that the Etiology is Rheumatic Fever .. Not a Marfan \$.. & even if you find Marfan Signs in the case this make it (Marfanoid NOT Marfan \$)	ORGANIC M.S. Murmur	There's Opening Snap + Thrill

			Mitral Stenosis (M.S.)		Mitral Regurg (M.R.)		
■ Introduction for M.S. :			شكوته	Stages	هـ تسمع أيه بـ سماعتك !؟		
			Dyspnea	1- Asymptomatic	M.S. Murmur Only		
			Low COP	2- Pulm. Congestion			
			Systemic Venous Congestion (Mainly Edema)		3- Pulmonary HTN	+ P. HTN	
				4- Rt. V.F.	+ if Rt. Vent Dilate → Retract the Tricuspid Ring → T.R. Murmur (may be heard)		
■ Etiology :			• Rheumatic Fever in 99% of cases This the ONLY Disease which ISOLATED LEISION in Rheumatic Fever				
■ Clinical	■ H/O :		• DYSPNEA (كرشة نفس ونهجان) → Low COP (دوخة وزغلة) → Systemic Congestion (Edema) المريض الوحيد اللي بـ يبدأ بـ كرشة نفس محترمة .. ولازم تهتم بيها وتعمل لها لها Stage (رغرفة) ± A.F.				
	■ General Examination :		• 3 أرقام Pulse (for A.F.) • 3 عامة Decubitus (for Orthopnea) • 3 موزعة Edema in L.L. (for Rt. Sided H.F.)		• شوف خدوده لا يكون لونهم أحمر Malar Flush • "من النظري" Mechanism • it's Not Specific • D.D. from Systemic Lupus → Butterfly Rash ع مناخيره كمان		
	■ Local Examination : (Inspection, Palpation & Percussion)		• Left Atrial Enlargement لازم يحصل ± Right Vent. Enlargement (Never Left Vent.) • Apex → Slapping Apex				
	■ Auscultation :	• Normal Sound	S1 : ↑ Accentuated • S1 may be Muffled in MS if there's Calcification or it's Double Mitral				
		• Murmur					
			• Time	Mid Diastolic with Pre-systolic Accentuation		• Effect of A.F. in Auscultation : - S1 → Variable Intensity - Murmur → No Pre-systolic Accentuation - O.S. → it Persist (لا تختفي)	
			• Character	Rumbling "يبرطم"			
			• Site	Apex			
		• Propagation	✗ Localized				
		• ↑↑ by	لما العيان : يميل على جنبه الشمال .. أو يعمل مجهود		+ Thrill		
	• Additional Sounds		*Precaution : it's a LOW Pitch Sound .. Heard by the CONE + "حط السماعة خفيف" • Opening Snap (O.S.)				
■ Complication			Search for A.F. & Pulmonary HTN in The Cases				
■ Investigations			• The Best Investigation is ECHO & DOPPLER				
1- ECG 2- X-ray 3- ECHO & DOPPLER • The Main 4 Points in ECHO Report are : - Valve Area (Assessment of Severity) - Pulmonary Pressure - Mitral Score - is there's a Thrombus or Not (By TEE)			4- Catheter : زمان "تقولها إذا الدكتور سأل عنها بس زمان" to detect if it's Reversible or Ir-reversible P. HTN - Reversible (due to V.C.) - while Ir-reversible (due to Fibrosis) هـ نخط القسطرة ونقيس الضغط لـ العيان .. وبعدين نحقن (Vaso-Dilator) ونقيس الضغط ثاني .. إذا أختلف = Reversible		- ECHO & DOPPLER • The Assessment of Severity is done by its Effect on the Lt. Ventricle - for Degree of Dilatation (Dimensions) & for Function (Ejection Fraction)		
■ Treatment			Medically		Interventional	• Balloon-Mitral-Valvo-Plasty (Trans-Septal Technique) الأفضل	
			The Initial Starting Treatment for these Cases is PROPHYLACTIC (Prevention of Rheumatic & IEC) "حسب الحالة فيها أيه" • Rest, Salt Retention & Diuresis ... for Dyspnea		Surgery		

Pulmonary Hypertension (P. HTN)		
Stage 1: ++ Pressure in Pulmonary Artery	Stage 2: Dilatation of Pulmonary Artery withOut Dilatation of Pulmonary Valve	Stage 3: Retract the Pulmonary Valve (Pulmonary Valve Regurg)
Accentuated S2 & Diastolic Shock ± Palpable S2 S1 S1	Accentuated S2 S1 S1 Systolic MURMUR	Accentuated S2 S1 S1 Diastolic MURMUR
& you can Find a Pulmonary Pulsation & Dullness		
		Diastolic MURMUR of Pulmonary Valve Regurg = Graham Steell Murmur [is a heart murmur typically associated with pulmonary regurgitation. It is a high pitched early diastolic murmur heard best at the left sternal edge in the second intercostal space with the patient in full inspiration] This Murmur is in Unstable Patient (so, Actually You will NOT hear it)

Double Aorta					Double Mitral				
مين ب يعمله ؟!					مين ب يعملها إزاي ؟!				
Rheumatic Fever ONLY					via Fibrosis "يلحم ويكرمش"				
 Affect the Commissures → Stenosis Affect the Cusps → Regurg					 Double Lesion				
نعرفه إزاي ؟!					H/O Examination				
Low COP .. up to Syncope (دوخة وزغلة) + Palpitation (رغرفة) 2 Murmurs should be heard &Take Care! The Case may be A.R. Only .. Not Double Aorta in that A.R. Murmur is the <u>Organic</u> Diastolic Murmur while with Volume Overload → it will produce <u>Functioning</u> Systolic A.S. Murmur *so you Should Diff. between Functioning & Systolic A.S. Murmur					DYSPNEA (كرشة نفس ونهجان) + Palpitation (رغرفة) 2 Murmurs should be heard S1: حسب مين الي له اليد العليا أيه الي يشككني أن حالة الـ M.R. هي في الحقيقة Double Mitral ؟! - by H/O : Dyspnea start very Early before other Symptoms - by General Exam : A.F., Orthopnea "دخلت ع العيان لقيته قاعد" *N.B. M.R. Produce Orthopnea in Terminal Stage "ما ينزلش عملي" - by Local Exam : Rt. Vent. Enlargement , Pulmonary HTN "سمعته" + S1 Accentuated				
Organic A.S.	Harsh	طالع نازل	Thrill	H/O of Low COP					
Functioning A.S.	Soft	✗	✗	✗					
Peripheral Signs of A.R. *if Marked Signs → A.R. is Predominant					Predominance Determined by				
					S1 *if Accentuated S1 → M.S. is Predominant				

■ Tricuspid Regurg (T.R.)

The Only Case for Rt. Sided Lesions

أشخصه إزاي

?

- by H/O : Symptoms of Systemic Venous Congestion (رجله تورم , جنبه يوجعه , الأكل يتعبه , *بطنه تعلى قبل رجله ما تورم)

- by General Exam : Signs of Systemic Venous Congestion :

- 1• Neck Veins
- 2• Pulsating Liver
- 3• Edema + Ascites

- by Local Exam : Rt. Ventricular Enlargement & maybe Rt. Atrial Enlargement + T.R. Murmur

T.R. is NEVER to be Isolated in the Exam ..

it's ALWAYS ASSOCIATED with **ADVANCED** Mitral Valve Disease (MVD)

★ so, when you have a case of MVD in the Exam .. Search for :

①	حجات تخليني أشك أن مع الحالة في	T.R.	Systemic Venous Congestion	- by H/O : (*بطنه تعالى قبل رجله ما تورم) - by General Exam : Edema + Ascites - by Local Exam : Rt. Ventricular Enlargement	
But it Just let you SUSPECT ONLY .. as it may be an ADVANCED MVD reaching the Rt. Vent. Failure Level					
②	حجات تخليني أتأكد أن مع الحالة في	T.R.	It's Only by Hearing a T.R. Murmur by the Stethoscope		N.B. it's Similar to M.R. Murmur تفرقهم عن بعض إزاي ؟!
				بس دول تعتمد عليهم في العملي أكثر	
				1- Non specific 2- Non specific 3- Specific	تقولهم لما يطلب قولها الأول
				↑↑ by : +++ by Respiration (as any Rt. Sided Lesion) [this called Carvallo's sign]	
بس الزيادة ديه .. ضئيلة جداً .. ومش في كل المرضى .. ومش في كل الضربات ..					
③	لما تتأكد من وجوده بهر حاجتين عشان ه يسألوك عليهم أكيد		1• Neck Veins : in T.R. it's - Level : Congested Pulsating - Wave Form : Systolic Expansion	2 بعدين خلي عينك و وش العيان .. ودوس عشان تشوف الـ Tenderness	1 حوط الكبد ب إيديك الاثنين .. ودخل إيديك الشمال الأول .. ورا آخر Rib وبعدها دخل إيدك اليمين تحت الـ Costal Margin
			2• Pulsating Liver : Technique	3 بعدين ثبت أيدك ما تدوسش ثاني وشيل عينك من و وش العيان وبص ع الكبد وتقول ل العيان : وقف نفسك	
			هتلاقي الكبد ب يطلع وينزل		

■ Valve Replacement Cases

هام جداً عملي (3)

① أعرف إزاي أن العيان عامل
Valve Replacement Surgery

- العيان ه يقول .. عملت عملية تبديل صمام
- by H/O :
 - by Exam : Median Sternotomy Scar

N.B.

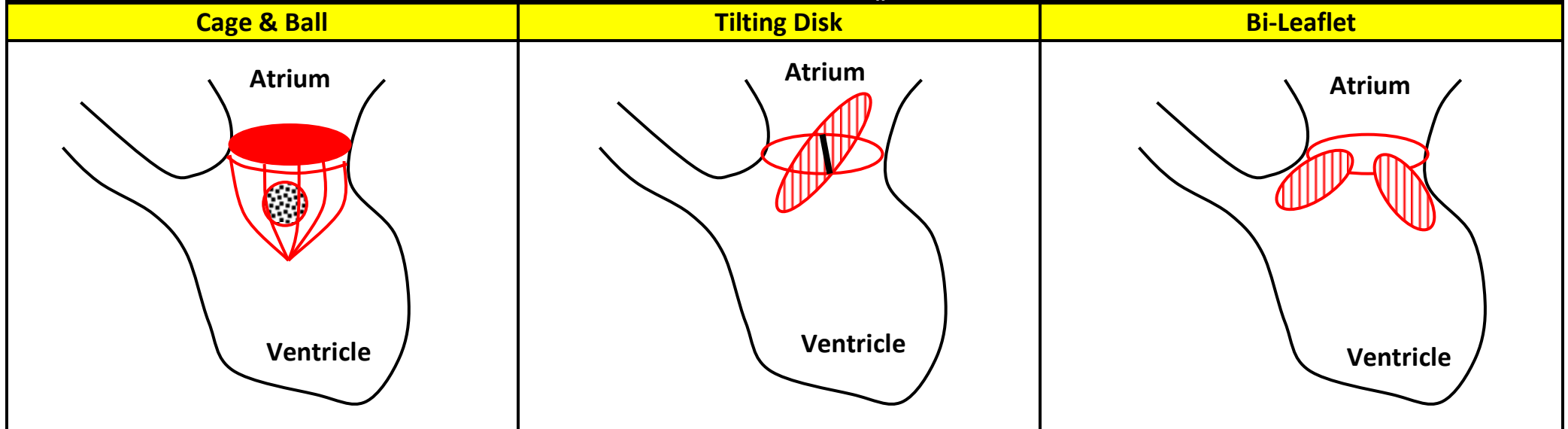
we done A Replacement Surgeries for the Rt. Sides Valves in a **Very Very RARE Conditions** .. due to **LOW PRESSURE** in Rt. Side + if Complications occur After Surgery they are **FATAL** (as Pulmonary Embolism)
So, **Most Probably** it's **Mitral** or **Aortic** Valve Replacement

العيان باجي لي عشان أجاب على 3 أسئلة ②		- by H/O:	- by Examination :
	1	ما قبل العملية العيان كان ب يشتكى ب أيه ؟! تعرف الصمام اللي كان بايظ - which Valve is Replaced ? • if Patient Complain from Dyspnea EARLY → Mitral Most Probably • if Patient Complain from Anginal Pain & Palpiataion while Dyspnea is LATE → Aortic Most Probably	- by <u>Local</u> Exam : ه تسمع صوت الصمام الصناعي Load or Metallic Sound - by Timing : • in S1 = Mitral Valve Replacement • in S2 = Aortic Valve Replacement
	2	- is The New Valve is Functioning or there's Mal-Function occur ? ما بعد العملية إذا العيان رجع يشتكى من نفس الأعراض .. So, Mal-Function occur	- by <u>Local</u> Exam : - hearing a MURMUR → Mal-Function occur N.B. there's may be a Functional Murmur heard [Systolic, Soft, Short, Faint, Localized]
	3	- is there are Complications Occur After Surgery or Not ? ما بعد العملية	- by <u>General</u> Exam :
		a- Thrombo-Embolism	حصل لك تقل في أيديك أو لسانك
b- Hemolytic Anemia		أصفرية ولا لا	No Pallor or Jaundice
c- Prosthetic Valve Endocarditis	سخنت ولا لا	No Hyper-Thermia or Clubbing	
N.B. there's No Complicated Pt. will be in Our Exam → So, There's Always No Major Complications Found			

③ يسألوك على الحالة كذا سؤال

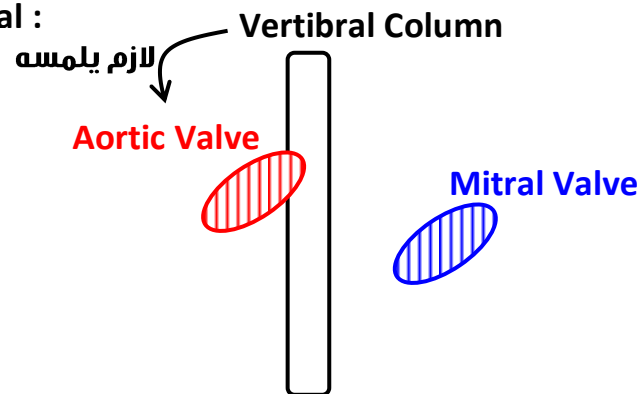
- what is the Investigations you want do for this patient ? by Scheme
- what is the Golden Stander in Investigations ? **ECHO *esp. TEE & DOPPLER**
- what is the Treatment you want do for this patient ? by Scheme
*but, we Give Anti-Coagulant Drugs for Life

الصمام اللي بدلناه + الفرز تبعته .. هـ تبان في الأشعة ..
وهما 3 أنواع اللي عندنا من الصمامات الصناعية ..



You will Know ء Valve is Replaced ..

- by Anatomical :



& by the Lesion in the Heart :

Causes of **Un-equal Pulse Volume** in Patient with Valve Replacement

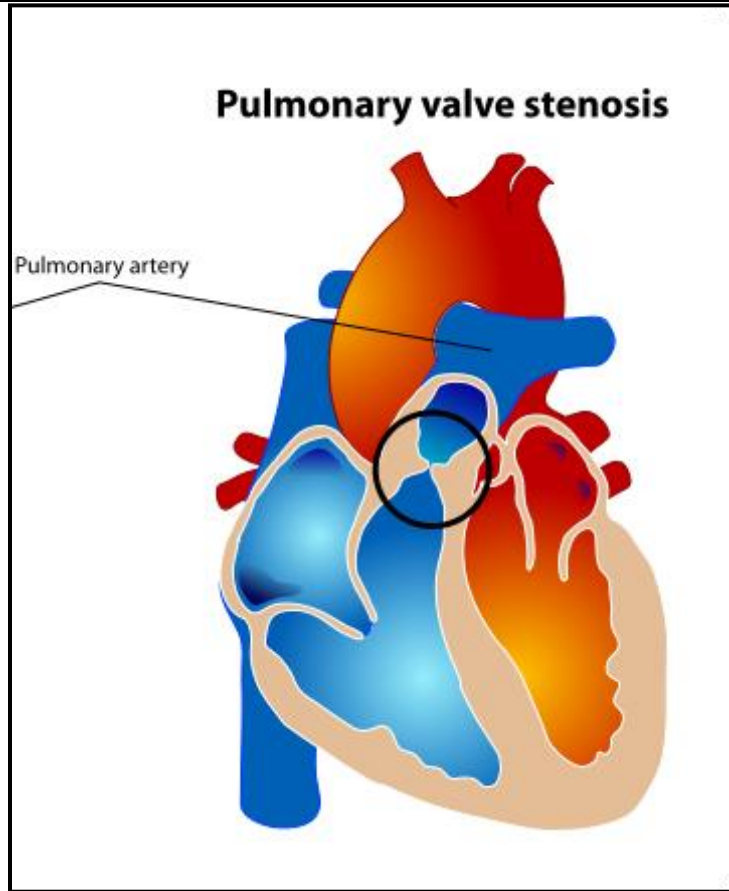
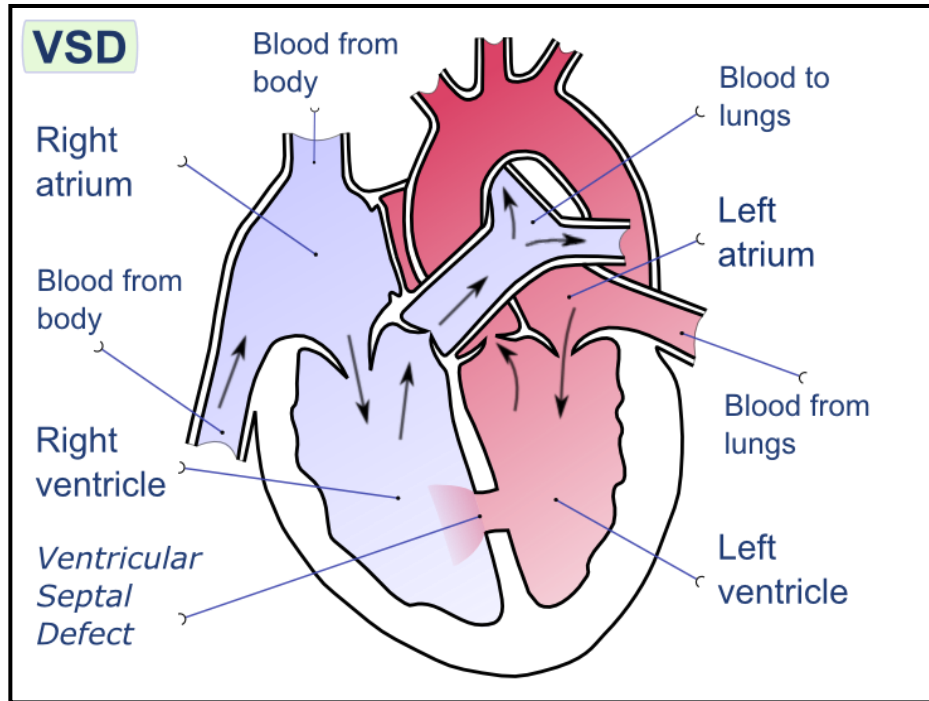
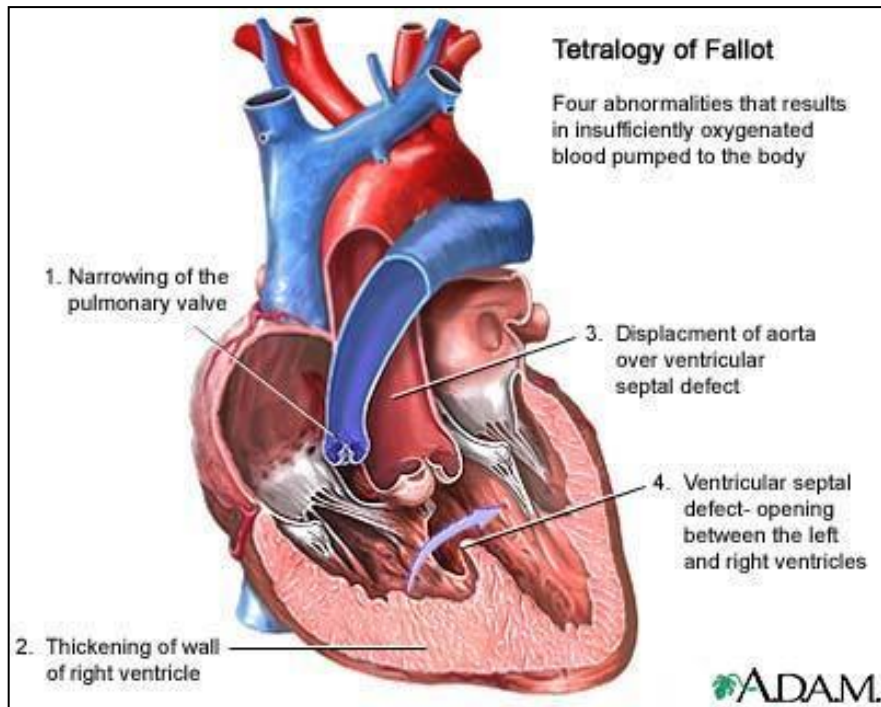
A.F. ده الأساس (sending Thrombus to the Hand)

■ **Valve Replacement Related :**

- Thrombus .. (if Patient didn't Receive Anti-Coagulant Regularly)
- Vegetation of Bacteria on Prosthetic Valve

■ **Association :**

- Cervical Rib
- Aneurism
- Pancoast Tumor

Congenital Heart Diseases									
	Pulmonary Stenosis (P.S.) *it's ALWAYS CONGENITAL .. Rh. Fever Never Affect Pulmonary Valve	Ventricular Septal Defect (VSD) [The Commonest Heart Disease]	Fallot Tetralogy (F4) [The Commonest Cyanotic Heart Disease]						
									
1• Anatomy	There are Valvular, Sub-Valvular & Supra-Valvular Lesions	There are Small or Big Lesions	1• Infundibular P.S. “not in the Valve” → Dynamic Stenosis 2• Anterior Position Overriding Aorta → الصوت هـ يعلى في السماعه 3• Very Big VDS → مش شغال 4• Very Mild ++ Rt. Vent. → Undetected Clinically						
2• Hemo-Dynamic	P.S. is Similar to A.S. .. Except in : - Site of Murmur - Chamber Enlargement - ttt of Choice	• Heart → Volume Overload in 2 Sides • Lung → Plethora • Systemic Circulation → Low COP	Non-Oxygenated Blood in Aorta = Cyanosis						
3• Complications		Infective Endo-Carditis (IEC) & at Late Stage : Eisenmenger's Syndrome	Infective Endo-Carditis (IEC)						
4★ H/O (Symptoms)	Low COP Symptoms دوخة وزغلة N.B. Noonan syndrome could be Association: 1- Stunted Growth 2- Sub-normal Mentality 3- Congenital Heart Disease .. esp. P.S. 4- Skeletal Deformities 5- Facial Features	it Depends on the Size of Defect • if Small Lesion → Asymptomatic • if Very Big Lesion → العيان يموت • if Moderate Lesion → Palpitation, Low COP دوخة وزغلة & Dyspnea	1• Cyanosis “almost this is his Complaint” هـ يقولك أنا بـ أزرق It's Onset : Shortly After Birth (from few weeks to Months) NOT Since Birth “due to presence of PDA” [Cyanosis Shortly After Birth → Pathognomonic to F4] 2• Squatting العيان بـ يقرفص Pathognomonic to F4 3• Cyanotic Spells “Only in SEVERE Cases” هـام شفوي <table><tr><th>3 Main Causes</th><th>Effect</th><th>3 Main Results</th></tr><tr><td>1• Exaggeration 2• Coldness 3• Infections</td><td>Spasm in Infundibular (All Blood in Aorta is Non-Oxygenated)</td><td>1• Deeply Cyanotic 2• Dyspnea 3• Convulsions</td></tr></table> ttt of Cyanotic Spells: 1• Put the Patient in Squatting Position 2• O ₂ Therapy 3• Drugs : β Blockers are the Drug of Choice here	3 Main Causes	Effect	3 Main Results	1• Exaggeration 2• Coldness 3• Infections	Spasm in Infundibular (All Blood in Aorta is Non-Oxygenated)	1• Deeply Cyanotic 2• Dyspnea 3• Convulsions
3 Main Causes	Effect	3 Main Results							
1• Exaggeration 2• Coldness 3• Infections	Spasm in Infundibular (All Blood in Aorta is Non-Oxygenated)	1• Deeply Cyanotic 2• Dyspnea 3• Convulsions							

5 ★ Examination (Signs)	• Normal Sound S2 : ↓ Muffled	+ Chamber Enlargement (Rt. Vent.) أضخم Rt. Vent. في الطب	• General Exam. : No Cyanosis & No Clubbing	• General Exam. : Cyanosis depends on Severity & Clubbing depends on Duration + if Severe F4 → Stunted Growth بلا فائدة
	• Murmur • Time: Systolic Ejection • Character: Harsh • Site: Pulmonary Area • Propagation: To Carotid & to Apex .. (طالع نازل)		• Local Exam. : By hearing the MURMUR [↓ the Defect Size → ↑ Murmur Sound] • Time: Pan-Systolic • Character: Harsh • Site: Lt. Para-Sternal Area • Propagation: To All Auscultatory Areas .. (المفّري) • ↑↑ by: Exercise + Thrill	• Local Exam. : 1• فاخر Infundibular P.S. → P.S. MURMUR 2• Anterior Position Overriding Aorta → ↑ S2 3• Very Big VDS → ولا حاجة 4• مش فاخر Very Mild ++ Rt. Vent. → ولا حاجة كون أن ده فاخر وده مش فاخر .. ده يعني أن الدم ليه مخرجين .. وبكده عرفنا التشخيص .. ل أن أغلب الأمراض بـ يكون فيها الأثنين فاخرين ..
	• Additional Sounds Ejection Click		2 تشوف الثقب عمل أيه كـ Rt. Vent. or Lt. Vent. or BOTH Chamber Enlargement وي تلاقي يـ ما تلاقيش	
			3 تشوف الثقب عمل أيه في الـ For Eisenmenger's Syndrome as Pulmonary HTN Pulmonary Pressure	
6• Investigations	Best Investigation is : ECHO-Doppler & Assess the Severity by Pressure Gradient		ECHO-Doppler .. it will show : • The Defect • Any Chamber Enlargement • Pulmonary Pressure *الأهم	• E.C.G. • X-ray • ECHO-Doppler
7• Treatment	Balloon-Pulmonary-Valvo-Plasty is the ttt of Choice		• Medical ttt : Prevention of IEC (Antibiotics Before & After Any minimal Procedures) • Interventional ttt : Closure by Umbrella (via Catheter) • Definitive ttt : Open Heart Surgery .. Indicated to : Patient who are Liable to Develop Eisenmenger's Syndrome (Detected by Measuring Pulmonary Pressure) [if Pulmonary Pressure = ½ Systemic Pressure → Close the Defect]	• Medical ttt : Prevention of IEC (Antibiotics Before & After Any minimal Procedures) & for Cyanotic Spells give β Blockers • Interventional ttt : Useless ل أن المشكلة في العضلة • Definitive ttt : Closed Heart Surgery Shunt OperationS .. Shunt from Aorta to Pulmonary The most Famous is Blalock-Taussig Operation Open Heart Surgery Total Correction Operation (هـ نصلح كله :) 1• Infundibular P.S. → Resection وسعناه 2• Overriding Aorta → Closed in Rt. Vent. قفلناه 3• Very Big VDS → Very Big Patch سديناه 4• Very Mild ++ Rt. Vent. → سيبناه

■ Closed Heart Surgery Cases

For **Mitral Stenosis ONLY**

(Closed Mitral Valvotomy or Commissurotomy)

What Happen in M.S. ?!



Fibrosis in Rh. Fever

طري في النص

Rigid Cusps but Liable in the Center

• in Valve Opening : it Give **Opening Snap**

• in Valve Closure : it Give **↑ S1**

& Both are Disappear with Calcification

Murmur Caused by the Stenosis itself

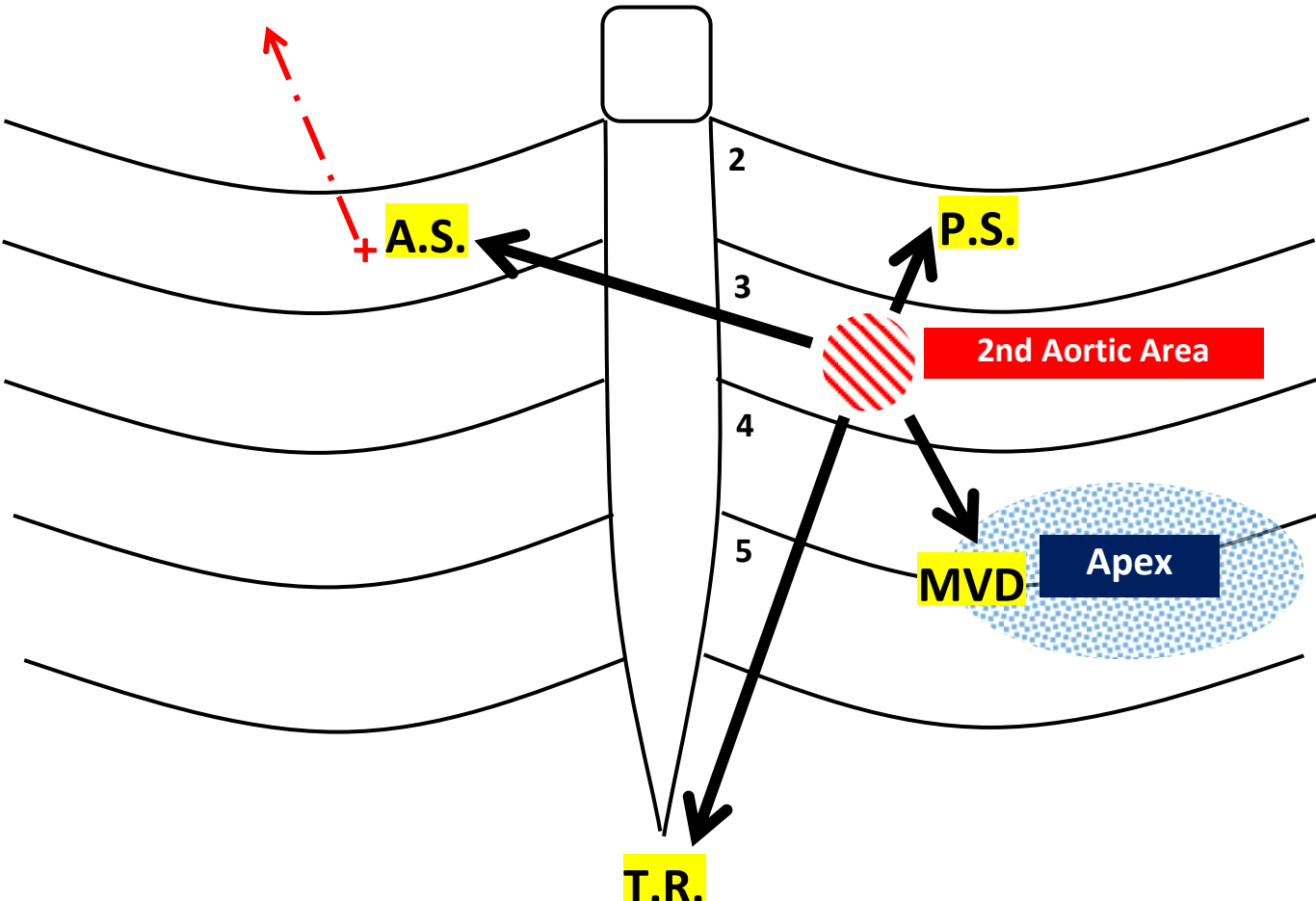
①	Indications	?	- by H/O : Severe Symptoms (Dyspnea) Not Controlled Medically or Dangerous Symptoms (Hemoptysis) - by Investigations : ECHO-Doppler .. if Valve Area LESS than 1 Cm.
②	Prerequisites	?	Isolated Lesion (No M.R.) & Not Calcified
③	Contra-Indications	?	If Double Lesion or Calcified

- by H/O:

- by Examination :

العيان جاي لي عشان أجاب على 3 أسئلة ②	1	أعرف إزاي أن الحالة - Closed Commissurotomy	?	العيان هـ يقول : وسعوا لي صمام (عملت عملية توسيع)	- by Lateral (Infra-Mammary) Thoracotomy Scar
	في الطب عموماً .. واحد عامل جراحة وجاي ل الدكتور .. هما 3 احتمالات ..				
	1- for Follow-up الجراحة ناجحة :				
	2	طب العيان جاي لي ليه - هـ أعرف هو جايلي بـ أيه إزاي -	?	مش هـ يشككي من حاجة	س ل الإمتياز : إذا العملية ناجحة تسمع أيه ؟!
	3			No Murmur .. but still there are Opening Snap & ↑ S1	
	2- for Complications After Surgery (e.g. converted into M.R.)				
	Palpitation			Systolic Murmur	
	3- for Recurrence .. (Re-Stenosis - M.S.)				
Dyspnea			Diastolic Murmur		

③	يسألوك على الحالة كذا سؤال	- in case of Re-Stenosis .. what is the Causes	?	• 99% it's Recurrent Rheumatic Activity (Re-Fibrosis) even if Patient didn't give a H/O of Rheumatic Activity [Subclinical Attack] • 1% Under-Correction from Surgeon قولها على استحياء
		- in case of Failed Commissurotomy what is the Treatment	?	Valve Replacemnt
		- is Incidence of Commissurotomy ↑ or ↓	?	↓ due to Balloono-Plasty is now Considered the ttt of Choice

Cardiology Scheme		
# How to Reach the Diagnosis ?!		
■ from H/O	1• Dyspnea (كرشة نفس أو نهجان) from the Start → M.S. 2• Ir-regular Palpitation (رغرفة ملخفنة) in the course of Disease → A.F. most probably with M.S. 3• Systemic Venous Congestion Symptoms (رجله ورمت وبطنه عليت وجنبه بيوجعه والأكل بيتعبه) → T.R. (have to be associated with MVD) 4• Low COP Symptoms (دوخة وزغللة وإغماء) ± Angina Pain from the Start → A.S. 5• Regular Palpitation (رغرفة منتظمة) from the Start → Regurge (M.R. or A.R.) 6• Cyanosis (بيزرق) + Squatting (بيقرقص) from the Start → F4 7• Young Onset Complain (العيان بدأ يشتكي من وهو صغير أياً كان التشخيص) → Etiology is Congenital	
■ from General Exam	1• Blood Pressure : ↑ Systole / ↓↓ Diastole = Pulse Volume > 60 → A.R. (& search for Other Peripheral Signs of A.R.) 2• Pulse : Ir-regular → A.F. → M.S. (& Revise the between A.F. & Extra-Systole) 3• Orthopnea ("قاعد") → M.S. (دخلت ع المريض لقيته مش قادر ينام "قاعد") 4• L.L. Edema or Ascites → T.R. (have to be associated with MVD) 5• Cyanosis or Clubbing→ F4 6• Very Tall & Thin Patient → Marfan \$ (& search for Other Signs of Marfan \$) → A.R. 7• Stunted Growth (العيان قصير جداً) → Congenital (either it's The Cause esp. if Sever, or it's Association as Down \$ or Noonan \$)	
■ from Local Exam	1st Auscultation هـ تسمع في مكانين	1st Put the Stethoscope on 2nd Aortic Area : If you Hear a Murmur Systolic Murmur Then you have to move in the 4 Directions to get the SITE OF MAX. INTENSITY وأوعى تقول التشخيص قبل ما تتحرك فوق وتحت ويمين وشمال .. • if Site of Max. Intensity is Apex → M.R. (Posterior Leaflet) • if Site of Max. Intensity is Pulmonary Area → P.S. • if Site of Max. Intensity is Tricuspid Area → T.R. (associated with MVD) • if Site of Max. Intensity is 1st Aortic Area + reaching the Carotid → A.S. • if the Sound is ↓↓ wherever you Move → VSD 2nd Put the Stethoscope on Apex : سواء سمعت حاجة في اللي قبله أو ما سمعتش ع طول Murmur = MVD Now, Search if it Localized or Propagated .. by moving the Stethoscope to the Axilla Propagated to Axilla M.R. (Anterior Leaflet) + it's Systolic Localized M.S. + it's Diastolic 
then Inspection + Palpation & Percussion	to Detect Any Chamber Enlargement + أنتا عارف أيهم ممكن يكبر بعد ما جبت التشخيص من اللي فوق فـ هـ تدور بـ ذمة	